WHAT IS CLAIMED IS:

1. A method of implementing Internet protocol security in a mobile IP network, comprising the steps of:

initiating communication from a first node to a second node;

checking by the first node if any security association is established with the second node; and

initiating by the first node establishment of a security association for protecting communications with the second node if no security association is established with the second node.

2. A method as recited in claim 1, wherein the second node is a mobile node situated away from its home link.

3. A method as recited in claim 2, wherein the first node initiates communication with the second node by sending a control packet to the second node through the second node's home agent and the second node in response returns a binding update to the first node.

4. A method as recited in claim 1, wherein the security association established employs a Kerberos key exchange method.

5. A method as recited in claim 4, wherein at least one of the first and second nodes uses a secret key established in Layer 2 for Layer 3 authentication.

6. A method as recited in claim 1, wherein the network has security association managers, and the security association is established by the security association managers.

7. A method as recited in claim 1, wherein the first and second nodes have a subscriber identification module, and the security association established is stored in the subscriber identification module.

8. A method as recited in claim 1, wherein the security association has a long lifetime and is used over multiple sessions of communications between the first and second nodes.

9. A method as recited in claim 1, wherein the communication is a real-time interactive digital data communication.

10. A method as recited in claim 9, wherein the real-time interactive digital data communication is voice over Internet protocol.

11. A method as recited in claim 1, wherein the network complies with International Mobile Telecommunications-2000 standards.

12. A method for implementing Kerberos-based Internet security protocol in a mobile IP network, comprising the steps of:

establishing a Layer 2 secret key between a node and a base transceiver station when the node is establishing wireless connection with the base transceiver station;

reporting the established Layer 2 secret key from a Layer 2 to a Layer 3 in the node; and

using the reported Layer 2 secret key to authenticate the node to the network when the node logs in the network.

13. A method as recited in claim 12, wherein the communication is a real-time interactive digital data communication.

14. A method as recited in claim 13, wherein the real-time interactive digital data communication is voice over Internet protocol.

15. A method as recited in claim 12, wherein the network complies with International Mobile Telecommunications-2000 standards.

16. An IP network comprising:

nodes communicate with each other over the network;

security association mangers provided in the network for managing security associations for the nodes, wherein when asked by a first node that needs to communicate with a second node, a security association manager returns to the first node a security association previously established for communication with the second node if the security association remains stored inside thereof, and if there is no security association stored for communication with the second node, the security association manager conducts establishment of a security association, stores the security association inside thereof and distributes it to the first node.

17. An IP network as recited in claim 16, wherein the network adopts a Kerberos key exchange method and has a key distribution center for distributing session keys to the security association managers for nodes that need to make communications.

18. An IP network as recited in claim 17, wherein the security association manager requests the key distribution center to issue a session key.

19. A method as recited in claim 16, wherein the communication is a real-time interactive digital data communication.

20. A method as recited in claim 19, wherein the real-time interactive digital data communication is voice over Internet protocol.

21. A method as recited in claim 16, wherein the network complies with International Mobile Telecommunications-2000 standards.